AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please amend the claims as follows:

1. (Currently Amended) A method of determining the position of a patient in a diagnostic image generated by radioscopy, the patient being located on an examination table in an imaging region, the method comprising:

providing a pattern of marking elements indicative of the position of the patient;

attaching the pattern of marking elements to at least one of the patient that is being imaged and the examination table; ~~and~~

generating a diagnostic ~~imageof~~ image of the patient including the marking elements, the marking elements ~~being configured such that~~ exhibiting a low absorption of the X-rays, the effect of which lies within the noise level of the X-ray image ~~in the diagnostic image, the marking elements are concealed in noise such that the pattern as a whole is detectable from a correlation between the diagnostic image and a filter image of the pattern and such that each element is not individually detectable by a computer system and by a human viewer of the diagnostic image~~; and

detecting~~extracting~~ the pattern in~~from~~ the generated diagnostic image by the correlation of the diagnostic image with a~~to the~~ filter image of the pattern.

2. (Cancelled)

3. (Previously Presented) The method as claimed in claim 1, wherein the filter image of the pattern is transformed relative to the actual pattern of the marking elements.

4. (Cancelled)

5. (Currently Amended) The method as claimed in claim 1, wherein the position of at least one further object is determined in the diagnostic image, wherein a second pattern of marking elements~~, which do not show up individually in the reconstructed diagnostic image,~~ is attached to the further object, and wherein the second pattern is different from the first pattern.

6-8. (Cancelled)

9. (Currently Amended) An X-ray system, comprising

an X-ray source generating X-rays along a ray path;

an X-ray detector, which is disposed in the ray path of the X-ray source;

a data processing unit which reconstructs an output of the detector into an x-ray image;

at least one marking device for attachment to at least one of a patient located in an imaging region between the X-ray source and the X-ray detector and an examination table on which the patient is supported in the imaging region, the marking device including an x-ray transparent carrier which carries a pattern of ~~a radioopaque~~ marking elements, the marking elements ~~of a size, a shape, and a material which exhibits~~ exhibiting sufficiently low absorption of the x-rays~~, the effect of which lies in~~ such that the effect of the marking elements on the x-ray image is within the~~a~~ noise level of the x-ray image, wherein, in the x-ray image, ~~the absorption of the x-rays being sufficiently low that~~ the pattern is detectable by correlation of the x-ray image ~~reconstructed from the output of the detector~~ with a filter image~~mask~~ of~~which replicates the pattern of the marking elements to reveal~~ the pattern.

10-11. (Cancelled)

12. (Previously Presented) The X-ray system as claimed in claim 9, wherein said pattern is a two dimensional, cyclical maximum length sequence.

13-17. (Cancelled)

18. (Previously Presented) The method as claimed in claim 1, further comprising:

forming the pattern of marking elements with a combination of a size, a shape, and a material that renders the marking elements not visibly evident individually in the diagnostic image to a machine viewer.

19-20. (Cancelled)

21. (Currently Amended) The method as claimed in claim 1, wherein the marking elements appear in the ~~reconstructed~~ diagnostic image as a watermark which is invisible in

diagnostic image diagnostic evaluation and does not distort or impair the diagnostic evaluation of the diagnostic image.

22. (Currently Amended) The method as claimed in claim 1, wherein the step of generating~~obtaining~~ the diagnostic image includes:

projecting an x-ray beam through the patient and the pattern of marking elements;

receiving the x-ray beam with an x-ray detector that has a plurality of individual sensors of the x-ray detector of a common size;

reconstructing an output of the x-ray detector into the diagnostic image;

wherein each marking element approximately covers an area of one of the sensors of the x-ray detector.

23. (Currently Amended) The method as claimed in claim 22, wherein radiation absorption of the marking elements is precalculated and further including:

using precalculated radiation absorption of the marking elements to correct degradation of the ~~reconstructed~~ diagnostic image attributable to the marking elements.

24. (Previously Presented) The method as claimed in claim 1, wherein the marking elements are carried on an x-ray transparent carrier and further including:

attaching the x-ray transparent carrier to the patient; and

monitoring movement of the patient from changes in the pattern extracted from the diagnostic images as the patient moves.

25. (Previously Presented) The system as claimed in claim 9, wherein the marking elements in the x-ray image are not individually apparent to a human or a machine in the x-ray image.

26. (Currently Amended) The system as claimed in claim 9, wherein the marking elements have a predetermined x-ray absorption and the data processing unit ~~further after revealing the pattern,~~ determines a location of each marking element from the pattern and corrects the x-ray image for the radiation absorption attributable to each marking element.

27. (Previously Presented) The system as claimed in claim 9, wherein the x-ray detector includes a plurality of individual sensors and the marking elements are each sized to approximately cover an area of one of the sensors of the x-ray detector.

28. (Currently Amended) The system as claimed in claim 9, wherein the transparent carrier~~layer~~ is flexible.

29. (Previously Presented) The system as claimed in claim 12, wherein the marking elements have a plurality of absorption levels and the two dimensional, cyclical maximum length sequence is multi-valent.

30. (Previously Presented) A method of determining a position of a patient in an image of the patient, the method comprising:

attaching a pattern of marking elements which exhibit a low x-ray absorption level to at least one of a patient and a patient examination table;

passing x-rays through the patient and the pattern of marking elements;

from the x-rays that have passed through the patient and the pattern of marking elements, generating an image;

wherein the x-ray absorption level of the marking elements is such that the marking elements alter a gray scale of corresponding pixels of the generated image less than a level of image noise and to such a small degree that individual marking elements are not detectable in the generated image to a computer pattern recognition routine;

analyzing the generated image with the pattern recognition computer routine which recognizes the pattern of marking elements in the generated image and determines the position of the patient from the recognized pattern.

31. (Previously Presented) The method as claimed in claim 30, wherein the individual marking elements in the generated image are not visibly evident to a human viewer.

32. (Cancelled)

33. (New) A method of determining the position of a patient in a diagnostic image, the patient being located on an examination table in an imaging region, the method comprising:

providing a pattern of marking elements;

attaching the pattern of marking elements to at least one of the patient that is being imaged and the examination table;

generating a diagnostic image of the patient including the marking elements, the marking elements being configured such that the effect of the marking elements lies within the noise level of the diagnostic image; and

detecting the pattern in the generated diagnostic image by the correlation of the diagnostic image with a filter image of the pattern.